

pulverisette® 2



Laboratory Mortar Grinder

- Fine grinding through pressure and friction
- Suitable for medium-hard to soft material
also for loss-free grinding in suspension

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Made in Germany



Laboratory Mortar Grinder "pulverisette 2"

Field of application

The "pulverisette 2" is an essential instrument for the processing laboratory. It is suitable for fine grinding of inorganic and organic samples for analysis, quality control and material testing.

Areas of application include, for example, grinding dry samples and solid materials in suspension, or manufacturing and homogenising pastes and creams to laboratory standards.

Whenever reproducible grinding conditions, short grinding times, precise results, loss-free milling and dust-free operation are required, the "pulverisette 2" is the perfect mill.

A final fineness of 10 - 20 µm can be achieved from a material feed size of 6 - 8 mm and feed quantity of 30 - 150 ml (dependent on material).

Method of operation

The principle involved is similar to a hand mortar, in that the material to be ground is reduced in size between the pestle and the mortar bowl through pressure and friction.

The mortar is rotated by a gear motor and in turn to drives the mounted, free-rotating pestle by means of friction. Pressure is applied by the pestle on the mortar wall in the horizontal as well as vertical direction. The pressure resulting from the preloaded springs can be adjusted without tools. It can be read off precisely and is therefore absolutely reproducible. A standard integrated scraper turns the sample and guides it back to the pestle.

Examples of application

Mining and metallurgy:

Ores, coal, coke, ashes

Chemistry:

Fertilisers, dyes, pesticides, salts, detergents, synthetic resins

Geology and mineralogy:

Minerals (up to and including a Moh's hardness of 9), calcites, quartz, silicates

Glass:

Sand, frits, glass, raw material

Ceramics:

Porcelain, fire-clay, sintered ceramics, clay

Agriculture:

Soil samples, fertilisers, organic plant materials

Foodstuffs:

Confectionery, gelatine, spices, yeast, pasta, sugar

Metallurgy:

Bauxite, slags, additives

Pharmacy:

Dragées, drugs, tablets, pastes raw materials

Rocks and soils:

Gypsum, lime, clinker, sand, cement

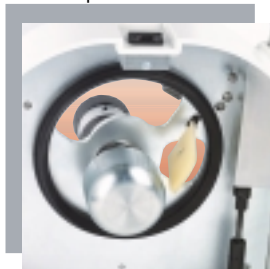
Specific pestle settings are provided for precrushing the samples, during which the pestle works without any direct contact with the base of the mortar. All parameters for this operating mode can also be set so that a reproducible grinding process is guaranteed.

The mortar bowl has a dust-tight seal, which ensures there is no loss of material during grinding. It is also possible to add liquids (e.g. nitrogen) directly whilst the process takes place.

Laboratory Mortar Grinder

"pulverisette 2"

pestle holding device and scraper



mortar bowl and pestle made of stainless steel, monolithic



mortar grinder "pulverisette 2" with grinding set in plastic frame



Design Characteristics

- Removal and fitting of mortar bowl and pestle without tools
- Precise adjustment and pestle pressure readout during grinding
- Pestle setting without tools
- Large pestle ensures large grinding surface
- Safe, rapid bayonet clamping of mortar bowl
- High centralised mortar bowl
- Lid with sealed rim
- Precrushing setting for coarse-grained samples
- Large acrylic glass window in the lid
- Tried and tested scraper kinematics
- Splash proof membrane keyboard
- Digital timer switch
- Safety switch for monitoring all operating modes
- Solid plastic housing

Advantages

- Fast, uniform comminution
- Reproducible grinding process
- Dust-tight grinding chamber
- Very easy cleaning
- Visual inspection of the grinding process
- Facility to add materials during any ongoing processes
- Wide choice of interchangeable grinding sets
- Safety standard EN 61010 tested by the German Technical Inspection Agency and CE-mark
- 2 year guarantee

Accessories

■ Grinding set with plastic frame

The grinding set consists of a mortar bowl rimmed in a plastic frame, pestle and scraper. Seven different materials are available for mortar and pestle to ensure contamination free sample grinding.

| Material | Density g/cm ³ | Abrasion resistance | Material to be ground |
|---|---------------------------|---------------------|---------------------------------------|
| Agate 99.9 % SiO ₂ | 2.65 | good | soft to medium-hard sample |
| Sintered corundum 99.7 % Al ₂ O ₃ | >3.8 | fairly good | medium-hard as well as fibrous sample |
| Hard porcelain (main component approx. 40 % Al ₂ O ₃) | 2.4 | adequate | soft, fibrous sample |
| Zirconium oxide 94.8 % ZrO ₂ | 5.7 | very good | fibrous as well as abrasive sample |
| Stainless steel 17-19 % Cr + 8-10 % Ni | 7.8 | fairly good | medium-hard, brittle sample |
| Hardened steel 11-12 % Cr + 1.9-2.2 % C | 7.9 | good | medium-hard, brittle sample |
| Hard metal tungsten carbide 93.5 % WC + 6 % Co | 14.89 | very good | medium-hard, abrasive sample |

■ Grinding set made of stainless steel, monolithic

The mortar bowl totally made of stainless steel can be easily cleaned, assures a defined abrasion of only one material and can be filled with liquid nitrogen for cooling/brittleness the sample to be ground.

| | | | |
|---|-----|-------------|-----------------------------|
| Stainless steel, monolithic 17-19 % Cr + 8-10 % Ni | 7.8 | fairly good | medium-hard, brittle sample |
|---|-----|-------------|-----------------------------|

Technical data

| | | | |
|--|---|-----------------------|------------------------|
| Maximum feed particle size | 6 - 8 mm | Mortar bowl speed | 50 Hz - 70 rpm |
| Feed quantity | 30 - 150 ml | | 60 Hz - 84 rpm |
| Final fineness | 10 - 20 µm | Diameter grinding set | inner: 130 mm |
| Electrical Details | 100-120/200-240 V/1~, 50-60 Hz, 250 watt | | outer: 200 mm |
| Motor-shaft-power according to VDE 0530, EN 60034 | 180 Watt | Weight | net 24 kg, gross 26 kg |
| | | Dimensions W x D x H | 31 x 46 x 41 cm |
| | | Packing Details | carton 63 x 46 x 55 cm |

Ordering data

| Order no. | Description | For rapid fax quotation tick here |
|------------|--|---|
| 02.2000.00 | Laboratory Mortar Grinder "pulverisette 2" without grinding set for 100-120/200-240 V/1~, 50-60 Hz, 250 watt The voltage specified on the order form will be set at the factory | |
| 46.2050.00 | Grinding sets Agate | |
| 46.2060.00 | Sintered corundum | |
| 46.2110.00 | Hard porcelain | |
| 46.2120.00 | Zirconium oxide | |
| 46.2100.00 | Stainless steel | |
| 46.2140.00 | Stainless steel, monolithic | |
| 46.2090.00 | Hardened steel | |
| 46.2080.00 | Hard metal tungsten carbide | |
| 02.1340.16 | Accessories Replacement Vulkollan scraper (= Polyurethan) | |